Claims

1. An apparatus for encoding data in accordance with a fire code $G(x) = P(x)(1 + x^c)$, where $P(x)$ is an irreducible polynomial of the degree m, characterized in that the value for C can be freely set within predetermined limits.

2. The apparatus according to claim 1, characterized in that the upper limit for C is predetermined by a maximal value and that the encoding apparatus has storage elements (3) and modulo 2 adders (4) whose number corresponds to the maximal number, and that switches (51, 52, ... 53, 54) are provided, by means of which the storage places (3) and modulo 2 adders (4) can connected together into an encoder according to the selected value for C.

3. A decoder for decoding data in accordance with a fire code $G(x) = P(x)(1 + x^c)$, where $P(x)$ is an irreducible polynomial of the degree m, characterized in that the value for C can be freely set within predetermined limits.

4. The decoder according to claim 3, characterized in that a disk register (103) is provided, wherein the length of the disk register (103) can be set as a function of the value for C.

5. The decoder according to claim 4, characterized in that a second disk register (102) is provided, whose length can be set to a value B, where in all cases, B is less than M and where B indicates the maximal number of correctable bit errors.

6. A method for encoding data in accordance with a fire code $G(x) = P(x)(1 + x^c)$, where $P(x)$ is an irreducible polynomial of the degree m, characterized in that the value for C can be freely set within predetermined limits.

7. A method for decoding data in accordance with a fire code $G(x) = P(x)(1 + x^c)$, where $P(x)$ is an irreducible polynomial of the degree m, characterized in that the value for C can be freely set within predetermined limits.

8. The method according to claim 7, characterized in that the values b and d (according to the specification) for the error correction and detection properties of the incorporated redundancy can be freely set within predetermined limits and in accordance with $d = c + 1 - b$.

9. The method according to claim 8, characterized in that the values b and d (according to the specification) for the error correction and detection properties of the incorporated redundancy can be adapted to the respective quality of the transmission channel (e.g. bit error rate).